

CLAIM AMENDMENTS

1. (Withdrawn) An integrated circuit structure which comprises
- (a) a substrate;
 - (b) a layer of a first polymeric dielectric material on the substrate;
 - (c) a plurality of spaced apart metal contacts on the layer of the first polymeric dielectric material;
 - (d) a space between adjacent metal contacts, each space being filled with the first polymeric dielectric material;
 - (e) a recess in the filled spaces of the first polymeric dielectric material extending from a level at a top of the metal contacts a part of the distance toward the substrate;
 - (f) a layer of a second polymeric dielectric material on at least some of the metal contacts and in the recesses on the filled spaces of the first polymeric dielectric material such that there is optionally a gap in at least one of the recesses of the layer of the second polymeric dielectric material at a side wall of a metal contact;
 - (g) an additional layer of the first polymeric dielectric material on the layer of the second polymeric dielectric material;
 - (h) at least one via extending through the additional layer of the first polymeric dielectric material and the layer of the second polymeric dielectric material extending to the top of at least one of the metal contacts and optionally to said gap;
- wherein the first polymeric dielectric material and the second polymeric dielectric material have substantially different etch resistance properties.

2. (Withdrawn) The integrated circuit structure of claim 1 wherein the via is filled with at least one metal.
3. (Withdrawn) The structure of claim 1 wherein the first polymeric dielectric material is organic and the second polymeric dielectric material is inorganic.
4. (Withdrawn) The structure of claim 1 wherein the first polymeric dielectric material is inorganic and the second polymeric dielectric material is organic.
5. (Currently Amended) An integrated circuit structure which comprises
 - (a) a substrate;
 - (b) a layer of a first polymeric dielectric material directly on and in direct contact with the substrate;
 - (c) a plurality of spaced apart metal contacts directly on and in direct contact with the layer of the first polymeric dielectric material;
 - (d) a space between adjacent metal contacts, each space being filled with a second polymeric dielectric material;
 - (e) a recess in the filled spaces of the layer of the second polymeric dielectric material extending from a level at a top of the metal contacts a part of the distance toward the substrate;
 - (f) an additional layer of the first polymeric dielectric material directly on and in direct contact with at least some of the metal contacts and in the recesses directly on and in direct contact with the filled spaces of the second polymeric dielectric material such that there is optionally a gap in at least one of the recesses of the additional layer of first polymeric dielectric material at a side wall of a metal contact;

(g) at least one via extending through the additional layer of the first polymeric dielectric material extending to the top of at least one of the metal contacts and optionally to said gap;

wherein the first dielectric material and the second dielectric material have substantially different etch resistance properties.

6. (Original) The integrated structure of claim 5 wherein the via is filled with at least one metal.

7. (Previously Presented) The structure of claim 5 wherein the first polymeric dielectric material is organic and the second polymeric dielectric material is inorganic.

8. (Withdrawn) The structure of claim 5 wherein the first polymeric dielectric material is inorganic and the second polymeric dielectric material is organic.

9. (Withdrawn) A process for producing an integrated circuit structure which comprises

- (a) providing a substrate;
- (b) depositing a layer of a first polymeric dielectric material onto the substrate;
- (c) forming a pattern of metal contacts on the layer of the first polymeric dielectric material including a space between adjacent metal contacts;
- (d) depositing a layer of the first polymeric dielectric material on a top surface of the metal contacts and filling in the space between the metal contacts with the first polymeric dielectric material;
- (e) removing the first polymeric dielectric material from the top surface of the metal contacts and removing an upper portion of the first polymeric dielectric material from the filled space between the metal contacts to form a recess;

- (f) depositing a layer of a second polymeric dielectric material on the metal contacts and filling the recess with second polymeric dielectric material, wherein the first polymeric dielectric material and the second polymeric dielectric material have substantially different etch resistance properties;
- (g) depositing an additional layer of the first polymeric dielectric material over the layer of the second polymeric dielectric material;
- (h) depositing a layer of a photoresist on the additional layer of the first polymeric dielectric material;
- (i) imagewise removing a portion of the photoresist over some of the metal contacts and optionally over a portion of at least one of the filled recesses adjacent to a side wall of a metal contact;
- (j) removing the portion of the additional layer of the first polymeric dielectric material under the removed portion of the photoresist;
- (k) removing the balance of the photoresist layer, and removing the portion of the second polymeric dielectric material under the removed portion of the additional layer of the first polymeric dielectric material until reaching at least one of the metal contacts and optionally reaching the space filled by the first polymeric dielectric material thus forming at least one via through the additional layer of the first polymeric dielectric material and through the layer of the second polymeric dielectric material.

10. (Withdrawn) The process of claim 9 further comprising:

- (n) depositing a layer of a barrier metal on the additional layer of the first polymeric dielectric material, and on inside walls and a floor of the at least one via;
- (o) filling the at least one via with a fill metal and depositing a layer of a fill metal on the layer of the barrier metal;

(p) removing the fill metal layer, the barrier metal layer and optionally the additional layer of the first polymeric dielectric material.

11. (Withdrawn) The process of claim 9 wherein the first polymeric dielectric material is organic and the second polymeric dielectric material is inorganic.

12. (Withdrawn) The process of claim 9 wherein the first polymeric dielectric material is inorganic and the second polymeric dielectric material is organic.

13. (Withdrawn) A process for producing an integrated circuit structure which comprises

- (a) providing a substrate;
- (b) depositing a layer of a first polymeric dielectric material onto the substrate;
- (c) forming a pattern of metal contacts on the layer of the first polymeric dielectric material including a space between adjacent metal contacts;
- (d) depositing a layer of a second polymeric dielectric material on a top surface of the metal contacts and filling in the space between the metal contacts with the second polymeric dielectric material;
- (e) removing the second polymeric dielectric material from the top surface of the metal contacts and removing an upper portion of the second polymeric dielectric material from the filled space between the metal contacts to form a recess;
- (f) depositing an additional layer of a first polymeric dielectric material on the metal contacts and filling the recess with first polymeric dielectric material, wherein the first polymeric dielectric material and the second polymeric dielectric material have substantially different etch resistance properties;
- (g) depositing a layer of a sacrificial metal on the additional layer of the first polymeric dielectric material;
- (h) depositing a layer of a photoresist on the layer of the sacrificial metal layer;

- (k) imagewise removing a portion of the photoresist over some of the metal contacts and optionally over a portion of at least one of the filled recesses adjacent to a side wall of a metal contact;
- (l) removing the portion of the layer of the sacrificial metal under the removed portion of the photoresist;
- (m) removing the balance of the photoresist layer, and removing the portion of the first polymeric dielectric material under the removed portion of the sacrificial metal layer until reaching at least one of the metal contacts and optionally reaching the space filled by the second polymeric dielectric material thus forming at least one via through the sacrificial metal layer and through the additional layer of the first polymeric dielectric material.

14. (Withdrawn) The process of claim 13 further comprising:

- (n) depositing a layer of a barrier metal on the sacrificial metal layer, and on inside walls and a floor of the at least one via;
- (o) filling the at least one via with a fill metal and depositing a layer of a fill metal on the layer of the barrier metal;
- (p) removing the fill metal layer, the barrier metal layer and the sacrificial metal layer.

15. (Withdrawn) The process of claim 13 wherein the first polymeric dielectric material is organic and the second polymeric dielectric material is inorganic.

16. (Withdrawn) The process of claim 13 wherein the first polymeric dielectric material is inorganic and the second polymeric dielectric material is organic.